



A.D. 1791 N^o 1816.

S P E C I F I C A T I O N

OF

JOHN HOYLE, JUNIOR.

APPARATUS FOR GENERATING STEAM,
APPLICABLE TO THE WARMING
OF BUILDINGS.

L O N D O N :

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**Apparatus for Generating Steam, applicable to the
Warming of Buildings.**

HOYLE'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JOHN HOYLE the younger, of the Parish of Halifax, in the County of York, Dyer, send greeting.

WHEREAS His most Excellent Majesty King George the Third, by His
5 Letters Patent under the Great Seal of Great Britain, bearing date at Westminster, the Seventh day of July, in the thirty-first year of His reign, did give and grant unto me, the said John Hoyle, His especial licence, that I, the said John Hoyle, during the term of years therein expressed, should and lawfully might use, exercise, and vend, within England and Wales and the Town
10 of Berwick upon Tweed, my Invention of "**A NEW AND IMPROVED METHOD OF COMMUNICATING HEAT OR WARMTH TO HOT-HOUSES, GREEN-HOUSES, CHURCHES, DWELLING-HOUSES, MANUFACTORIES, AND ALL OTHER BUILDINGS, IN ANY DEGREE REQUIRED FOR EITHER OF THOSE PURPOSES ;**" in which said Letters Patent there is contained a proviso obliging me, the said John Hoyle, under my hand and
15 seal to cause a particular description of the nature of my said Invention, and in what manner the same is to be performed, to be inrolled in His Majesty's High Court of Chancery within one calendar month after the date of the said recited Letters Patent, as in and by the same (relation being thereunto had) may fully and at large appear.

20 **NOW KNOW YE**, that in compliance with the said proviso, I, the said John Hoyle, do hereby declare that my said Invention is described in manner following (that is to say) :—

Hoyle's Improvements in Communicating Heat to Hot-houses, &c.

In any place (properly secured from accidents by fire) contiguous to the room or building required to be warmed or heated, place a boiler or steam kettle of the common construction, except that the bottom thereof is to consist of a spiral flue or funnel, at the mouth of the external circle of which is to be a small grate or receptacle for the fuel; the heat and flame being thus confined, and performing the several evolutions through the funnell, will generate the steam much sooner and at a much less expenditure of fuel than by any other method; the smoke is conveyed away by a perpendicular continuation of the funnell from about the centre or middle of the boiler into a chimney, or otherwise, as situation may require. From any part of the boiler above the surface of the water one or more pipes or tubes to be charged with steam from the boiler are to ascend, or be otherwise conducted into, round, or through the room or building to be warmed or heated, and are to be either attached to the cieling or cornice, or placed lower, as may be best approved of, observing that from their highest elevation they must form a gentle declivity, so as more readily to deposit the condensed steam or water into a cistern or reservoir, into which they are to be for that purpose continued, and which reservoir is to be placed as near to the boiler as circumstances will admit. It is obvious that the heat dispensed will be in proportion to the length or quantity of the pipes or tubes introduced into the place intended to be warmed; the boiler is to have a communication with the reservoir by means of a pipe intended to supply the water necessary, and that this may be properly and regularly effected in proportion to its evaporation and escape, a cock and floating ball is fixed in the same manner as in cisterns or reservoirs within side the boiler, which will at all times preserve the water in the boiler nearly on the same level, and which contrivance is equally applicable to all boilers for generating steam for any purpose whatsoever. In order that the heat thus communicated may be checked or regulated, and the room or building kept in a due and uniform state of temperature, cocks or valves are disposed in such part of the pipes or tubes most convenient, by which means the supply of heat may be either decreased or entirely sett off or stopped, in which latter case the steam may be directed to several other advantageous uses, such as blowing of all kinds of fires, or in giving force to such works as require power to put them in motion, by means of one or more other pipes or tubes branching from the boiler in any necessary direction, which pipes or tubes are not to be constructed of the same diameter throughout, but must be formed large and capaciou sat that end which is attached to the boiler, and must run

Hoyle's Improvements in Communicating Heat to Hot-houses, &c.

tapering (in proportion to their required length), so as to confine the steam in so narrow compass that it may have considerable force in its issue.

In witness whereof, I, the said John Hoyle the younger, have hereunto set my hand and seal, this Fifteenth day of July, One thousand seven
 5 hundred and ninety-one.

JOHN HOYLE, JUN^R. (L.S.)

AND BE IT REMEMBERED, that on the same Fifteenth day of July, in the year above written, the aforesaid John Hoyle the younger came before our Lord the King in His Chancery, and acknowledged the Specification
 10 aforesaid, and all and everything therein contained, in form above written. And also the Specification aforesaid was stamped according to the tenor of the Statute in that case made and provided.

Inrolled the Sixth day of August, in the year above mentioned.

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